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USE AND CARE OF FEATHERS

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Among the many varied uses for feathers the following list is merely suggestive, but not exhaustive. For the decoration of women's headdress and clothing as well as the regalia of men in military and fraternal circles, feathers have long filled an important place and will continue to do so. Additional uses include the manufacture of novelty writing quills, fancy collapsible fans for ladies, quill tooth picks, artificial flowers, tails for arrows, darts and badminton shuttle-cocks, handles for small brushes for medical and other uses, artificial birds and fowls for novelty and toy purposes, ornaments for fancy costumes and holiday novelties, feather dusters and numerous other articles of manufacture. Commercially, as well as on the farm, the soft, downy feathers come into good use for the stuffing of pillows, cushions, furniture, quilts and mattresses.

Feathers can be used also for making feather fiber; the fine fluffy fiber obtained by macerating or grinding chicken body feathers and separating out the quilly portion by air flotation. This product may be used as a filler for light weight comforters and as a blend with other fibers for the manufacture of yarn.

Poultry feathers are collected as a byproduct of the poultry packing and poultry canning industries, but may be salvaged on a small but worthwhile scale at farms and poultry breeding establishments. The feathers should be kept clean when plucked and the white-feathered birds plucked first. Care should be taken to keep the white feathers entirely separate from colored feathers, as the former will command a higher price if unmixed. Quills should be carefully kept separate from the soft, downy body feathers. Freshly plucked feathers should be dried quickly and cooled before they are bagged in order to prevent the development of molds, heat, or putrefactive odors.

Duck and goose feathers should be kept separate from each other and from chicken feathers. Either duck feathers or goose feathers alone will command a premium. Blood stained feathers may be cleansed by soaking in a warm (90°F. only) ammonia water bath, and then scoured with soap solution.

As a routine procedure all feathers should be soaked in a lukewarm soap solution to which ammonia, carbonate of soda, or borax, has been added. This process removes ordinary dirt and frees the feathers from the grease always present on newly plucked feathers. After the cleansing process the feathers are thoroughly rinsed and then soaked in warm clear water for thirty to forty minutes.

Following the process of cleansing, feathers, white or colored, are frequently subjected to a bleaching process. This is done by one of several methods. They may be soaked for half an hour in a solution made by dissolving 1/2 ounce of potassium permanganate in 9 gallons of soft water, after which they are drained on wood-slatted trays or trays of rust-proof wire cloth, then rinsed in a cold bath of 9 gallons of water to which 5 ounces of sodium bisulphite and 22 cubic centimeters (about 3/4 of a liquid ounce) of commercial sulphurous acid have been added. This treatment removes the brown residue left by the permanganate of potash.

Optionally, the bleaching may be done by immersing the feathers in a solution of hydrogen peroxide 1 pint to 6 quarts of water slightly alkalized with ammonia, gradually bringing the temperature of the bath to 120 deg. F.

However, it is said that peroxide bleaches may seriously damage the texture of the feathers. White feathers for coloring are not usually bleached beforehand. It is sufficient to scour them for the removal of blood, dirt and grease.

Feathers for upholstery and bedding purposes are used without dyeing or regard to color. However, feathers intended for ornamental uses, or for the manufacture of toys and novelties are usually dyed. Such feathers include wing and tail feathers from chickens, ducks, and other species. White feathers are preferred for dyeing, as they take the pigments more satisfactorily. Large quill feathers or ostrich plumes may be racked in perforated blocks for dipping into hot dye liquids. Depending upon the strength of the dye and the depth of color desired for the feathers or plumes, they are usually steeped for a number of minutes in a hot solution of dye, then rinsed and dried.

The hot dye bath is maintained at a subboiling temperature, but may be brought to the boiling point momentarily to impregnate the feather quills and barbs with the dye. Dyes usually require an acid medium in which to permeate the feathers. Such dye solutions can be acidified with acetic or oxalic acids. Dyes to be used on feathers intended for ornamental purposes, or for the manufacture of toys must be non-poisonous. It has been found that commercial wool dyes are more effective for coloring feathers than those intended strictly for dyeing cotton. However, combination wool-cotton dyes may be satisfactory for feathers. After feathers have been dyed they are thoroughly rinsed in lukewarm water to remove the excess dye and acid, and then spread out to dry in a current of circulating warm air.

Feathers being collected for sale to merchants are merely dried and hung up in sacks beyond the reach of rats or mice. The cleansing, bleaching and dyeing processes are better done in establishments where suitable industrial methods and equipment are available. In all cases, however, feathers should be harvested unsoiled as far as possible, carefully sorted as to white or colored, and as to quills or body feathers.

